

Research on the Impact of Digital Tourism Experience on Tourist Loyalty in Rural Tourism Destinations

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Abstract

Advancing the digital transformation of rural tourism holds profound and significant practical implications for rural revitalization. In this study, the data obtained from the field research were systematically analyzed through structural equation modeling (SEM) with digital sensory experience, digital emotional experience, and digital-related experience as independent variables and perceived emotional value as a mediator variable, to identify the mechanisms through which digital tourism experiences influence tourist loyalty. The results of the SEM analysis showed that: the digital sensory experience directly and positively influenced tourist loyalty; the digital emotional experience and digital-related experience both positively influenced perceived emotional value, and perceived emotional value further positively influenced tourist loyalty. In addition, perceived emotional value played a mediating role in the influence of digital emotional experience and digital-related experience on tourist loyalty. Digital tourism experience enhanced the perceived emotional value for tourists, subsequently leading to an elevation in tourist loyalty towards rural tourism destinations. In light of the conclusions inferred from the antecedent quantitative analysis, this research has propounded specific recommendations for development for the digital metamorphosis of rural tourism and endowed robust decision-making sustenance for the sustainable evolution of rural tourism.

1. Introduction

Rural tourism has become a novel and prominent growth point for rural economic development in the context of the integrated development of the primary, secondary, and tertiary industries. To adapt to the burgeoning trend of digital transformation in the industry, the Ministry of Culture and Tourism of China has promulgated the Rural Tourism Digital Enhancement Initiative in 2024. This initiative explicitly stipulates that accelerated efforts should be made to explore the developmental pathway of “rural tourism + digital economy”, aiming to comprehensively and profoundly propel the quality improvement and upgrading of rural tourism, thereby injecting fresh and robust impetus into consumption growth as well as innovative development within the relevant domains. However, at present, rural tourism is faced with development dilemmas such as relatively weak awareness of brand building, imperfect infrastructure, and insufficient cultural innovation ability (Liu & Xian, 2023), which consequently lead to its relatively weak attraction to tourists. Fortunately, the wave

of digital empowerment is surging forward, presenting a crucial opportunity window for the high-quality development of beleaguered rural tourism. Specifically, cutting-edge digital technologies, acting as powerful catalysts, have been continuously spawning a series of innovative business forms and models within the cultural and tourism industry. They have successfully remodeled and remarkably enriched the tourism experience scenarios for tourists in rural settings, endowing traditional tourism projects with novel immersive and interactive charms. Concurrently, digital technologies have empowered the protection and inheritance of invaluable cultural heritage in rural areas, delving deep to cultivate and augment the profound historical and cultural deposits underlying rural tourism (Wang et al., 2024).

In light of the above, an in-depth exploration of how to adeptly utilize digital tourism experiences to enhance tourist loyalty and boost tourists' recommendations and revisit rates has become an indispensable practical exigency for the future development of the rural tourism industry. It also serves as a critical breakthrough pathway for further facilitating the coordinated development of multiple rural industries, which holds far-reaching significance for ensuring the stable and sustainable progress of rural economies and their comprehensive revitalization. Digital empowerment offers a significant opportunity for the high-quality development of rural tourism. Academia has already conducted numerous discussions on the relationship between digital tourism experience and tourist loyalty. However, there is a scarcity of research specifically focusing on the impact of tourism experience on tourist loyalty in the context of rural tourism. For instance, Gao & Liu (2024) investigated the connection between tourist loyalty and satisfaction and museum smart tourism technology. In rural tourism destinations, many academics have recently concentrated on developing tourist loyalty in terms of perceptions of rural tourism (Huang et al., 2017) and place attachment (Meng & Cui, 2021). As the digital economy grows, more researchers are concentrating on the micro-level of digital technology-enabled rural tourism, with a particular emphasis on the stakeholders in the community (Lapuz, 2023). At the same time, some researchers are investigating the digital transformation pathways of rural tourism to support rural revitalization (Yin, 2023; Liu & Xian, 2023), and the effect of the digital tourism experience on tourist loyalty has not received much attention from academics.

This paper builds on previous research results, constructs corresponding research models and hypotheses from the perspective of tourists' experience, and verifies them with the help of empirical analysis. This study is aimed at investigating the mechanism and trajectory of the influence of digital tourist experiences on visitors' perceived value and loyalty in order to give scientific guidance and a point of reference for the digital transformation of rural tourism.

2. Literature Review

2.1. Digital tourism experience

Digital tourism experience pertains to the offering of digital assistance throughout the phases of pre-tourism, mid-tourism, and post-tourism activities (Benyon, 2014). This assistance aims to enrich the interaction between tourists and their surroundings, as well as to foster the evolution and adaptation of their psychological disposition (Ning, 2017). To measure how crucial the visitor experience is to the tourism sector, marketing academics are particularly concerned with tourism-experiential visitors (Lee et al., 2022; Genc & Gulertekin, 2023). It has been noted that there is a positive correlation between smart technology and tourism experience (Sustacha et al., 2023). Meanwhile, researchers pay special attention to the application of digital technologies such as online travel videos, smartphones and virtual reality. Moreover, the application of these digital technologies can also bring pleasure to tourists (Tussyadiah, 2009) and improve their mental health

(Walters et al., 2024), thereby enhancing tourists' satisfaction (Tan, 2017; Bec, 2019) and stimulating purchase intentions (Wen, 2021). However, the use of digital technological devices also has the potential to bring about certain negative impacts, such as privacy, security, and ethical issues, as well as social differentiation that may be brought about by technological development (Dickinson, 2014).

According to the customer experience model, the tourism experience can be categorized into five dimensions: SENSE, FEEL, THINK, ACT, and RELATE (Schmitt, 1999). The categorization dimensions and content of the tourism experience may vary in different research contexts. For example, Wang (2012) proposed three dimensions of aesthetic experience, emotional experience, and behavioral experience in his study of wetland ecotourism, and Pine & Gilmore (2011) pointed out the four main domains of tourism experience, which include recreational experience, educational experience, escapism experience, and aesthetic experience. In rural tourism destinations, perceived interest, and experiential marketing are important factors that influence tourists' willingness to revisit (Lin, 2024). Before a tourist trip, tourists experience a variety of positive emotions such as comfort and pleasure during the planning stage (Kwortnik & Ross, 2007). During the travel process, travelers construct and experience the body in the social space through the full participation of the body and senses (Small, 2012). The results of the use of digital technology can result in positive emotional experiences for the user (Chen, 2021), for example, multi-sensory virtual reality technology can promote positive emotions during virtual tours (Melo et al., 2022). When the journey is over, it is popular for travelers to share their experiences through digital social media, where social relevance motives are important (Munar & Jacobsen, 2014). In conclusion, this research analyses the three aspects of digital tourism in the context of rural tourism: digital sensory, digital emotional, and digital-related experience.

2.2. Perceived emotional value

It is worth mentioning that some scholars have already explored the relationship between tourists' travel experiences and perceived value. For example, Song et al. (2015) found that tourists' escape and entertainment experiences were important predictors of perceived functional value and perceived emotional value in temple accommodation tourism. On the other hand, Lin et al. (2016) found that Perceived value plays a mediating role between tourism experience and satisfaction, and satisfaction is the main antecedent of loyalty intention. In summary, there is a certain connection between tourism experience and perceived value.

For the past few years, perceived value has gained popularity for its ability to predict tourism behavior in academia (Rasoolimanesh et al., 2020). Perceived value refers to the consumer's evaluation of a product's overall utility based on the perception of receiving, where value represents a significant trade-off between effort and reward (Zeithaml, 1988). In this context, value is a multivariate structure that can be measured through three dimensions: functional value, emotional value, and social value (Sánchez et al., 2006), and its dimensions are correlated (Sweeney & Soutar, 2001). At the same time, some studies have argued that the value dimensions are independent and the contribution of each dimension choice is incremental, but maximizing each dimension is difficult to achieve (Sheth et al., 1991). In the tourism industry, previous studies have implemented perceived emotional value as a one-dimensional construct (Rasoolimanesh et al., 2023). Emotional value is defined as “the utility derived from the emotional or affective state produced by a product” (Jiang & Kim, 2015). Sánchez et al. (2006) categorized the perceived emotional value of travel agents into three dimensions: positive, relaxing, and comfortable. In an era of digital economy, the use of digital technology also increases perceived value (Lamberton & Stephen, 2016). In B2B professional environments, for example, digital technology interacts with service quality to increase

the perceived value of users (Nguyen & Nguyen, 2020). Kato (2021) holds that emotional value contributes more to brand preference than functional value. Among emotional values, innovation is regarded as the most influential factor. Meanwhile, Mohammad et al. (2020) argue that the technical quality of the digital content and the quality of the content positively affect the perceived emotional value. In conclusion, the impact of digital technology introduction on the perceived emotional value of tourists deserves in-depth research.

3. Research hypothesis

As digital technology advances in the tourism industry, the tourism experience under digital technology is gradually becoming a major approach. The introduction of digital technologies such as the use of smartphones (Tan, 2017) and the combination of AR and VR technologies (Bec, 2019) can all positively enhance the tourist tourism experience, thus increasing the satisfaction of the tourism experience (Huang et al., 2017). Digital tourism experience refers to providing digital support in the stages before, during, and after tourism activities (Benyon, 2014) to facilitate the interaction between tourists and the external environment and to realize the transformation and adjustment of the self-psychological state (Ning, 2017). According to the customer experience model, the tourism experience can be categorized into five dimensions: SENSE, FEEL, THINK, ACT, and RELATE (Schmitt, 1999). Under the influence of the digital technology environment, tourists' perceptual experience and emotional engagement have become more prominent (Windasari et al., 2022). Therefore, based on the previous exposition (Part 2.1), this paper categorizes the tourism experience into three dimensions: sensory experience, emotional experience, and related experience. In the process of tourism, the traveler's perceptual and visual aspects are directly exposed to digital products and directly produce "touch", thus forming a digital sensory experience. At the same time, visitors go through a range of emotions, including pleasure and comfort (Kwortnik & Ross, 2007), which makes for an emotional experience. For instance, consumers will have pleasant emotional experiences when digital technology is applied (Chen, 2021). Tourism is not solely the creation of individuals, and it emerges from the interplay between people and the connections they forge with society (Schmitt, 1999). Sharing travel experiences through digital social media is popular while traveling (Munar & Jacobsen, 2014), thus creating related experience.

Since experiences impact tourist satisfaction, they can be regarded as an accurate indicator of future behavioral intentions in the tourism industry (Kim, 2014). As travel can "touch" individuals and enhance their quality of life, a positive experience can result in recommendations and revisits (Urry, 1992). The future behavioral intentions of users, which are frequently seen as the relative loyalty of customers (Chen & Chen, 2010), may be influenced by the use of particular technologies (Chiu et al., 2005). Consequently, this article makes the case that tourist loyalty in rural tourism sites is positively impacted by the digital tourism experience, and it particularly suggests the following study hypotheses:

H1a: Digital sensory experience in the rural tourism destination perspective has a positive impact on tourist loyalty.

H1b: Digital emotional experience in the rural tourism destination perspective has a positive impact on tourist loyalty.

H1c: Digital-related experience in the rural tourism destination perspective has a positive impact on tourist loyalty.

Perceived emotional value is defined as "the utility derived from the emotion or emotional state generated by a product" (Jiang & Kim, 2015). Some studies have shown that tourism experience

positively affects tourist perceived value (Loureiro et al., 2020). Mohammad et al. (2020) argue that the technical quality and the content quality of digital content positively affect perceived emotional value and that when digital platforms provide advanced technologies that enable users to easily access, upload, and share content, the users will experience more emotional value when experiencing these features. At the same time, high-quality content that piques users' interest will increase their emotional value. The introduction of digital technology as an emerging technology can improve travel efficiency and bring positive emotional experiences to users (Chen, 2021). Meanwhile, tourists' sharing through digital social media creates a related experience, which is also an important source of positive emotions for tourists (Munar & Jacobsen, 2014). And the digital content they share or receive, which can arouse tourists' interest and satisfy their curiosity about novelty, will increase users' emotional value (Mohammad et al., 2020). Regarding emotional value, innovation is the most influential factor for emotional value (Kato, 2021). Therefore, within such an innovative digital experience, a certain utility will be generated for users, and the perceived emotional value will be increased. In summary, this paper proposes the following hypotheses:

H2: Digital emotional experience has a positive impact on perceived emotional value.

H3: Digital-related experience has a positive impact on perceived emotional value.

According to Gallarza and Saura (2006), perceived value is thought to be the important predictor of important aspects of traveler behavior, like loyalty and satisfaction. A multitude of earlier studies have demonstrated that perceived value directly influences future behavioral intentions (Gallarza & Saura, 2006; Chen & Chen, 2010). Rasoolimanesh et al. (2023) discovered that both domestic and foreign tourists' tendency to return to the countryside was positively impacted by perceived emotional value. Accordingly, this study provides the case that, from the viewpoint of a rural tourism destination, perceived emotional value has a beneficial impact on tourist loyalty and puts forward the following theory:

H4: Perceived emotional value has a positive impact on tourist loyalty in rural tourism destinations.

Regarding the function of perceived emotional value as a mediator, Ghorbanzadeh et al. (2021) confirmed that behavioral intention is positively influenced by experience quality via perceived value. One significant aspect of perceived value that is thought to have a major effect on travelers' decision-making is perceived emotional value. The ability of the user to generate emotional value is necessary for the establishment of a connection between digital content and a brand, according to Mohammad et al. (2020). The digital content improves the perceived emotional value, which in turn forges a connection with the brand. Sheth et al. (1991) pointed out that emotional value has the strongest influence when applied to purchase, product and brand decisions. Emotional value refers to the existence of positive feelings toward the brand involved in the initiative, and sometimes these feelings are so significant that they can stimulate customer loyalty to the same brand (Sweeney & Soutar, 2001). The quality of digital marketing in rural tourism destinations exerts a positive influence on the generation of emotional value among tourists (Rodrigues, 2021). At the same time, it has been shown that perceived emotional value has a positive effect on tourists' revisit intentions (Rasoolimanesh et al., 2023), and the presence of emotional value associated with digital marketing campaigns is positively correlated with tourists' future visit intentions to rural tourism destinations (Rodrigues, 2021). In this study, digital tourism can bring positive emotional experiences to users (Chen, 2021). Meanwhile, users will generate perceived emotional value in their emotional state. Such emotions arouse tourists' novelty and interest and have an impact on tourist behavioral intentions. At the same time, the related experience will bring certain perceived emotional value, stimulate tourists' positive emotions, and then have an impact on tourist loyalty

(Munar and Jacobsen, 2021). Therefore, in the process of digital tourism experience influencing tourist loyalty by stimulating positive emotions, the following hypotheses are put forward:

H5a: Perceived emotional value mediates the influence of digital emotional experience on tourist loyalty in rural tourism destinations.

H5b: Perceived emotional value mediates the influence of digital-related experience on tourist loyalty in rural tourism destinations.

In summary, the research model of this paper is shown in Figure 1.

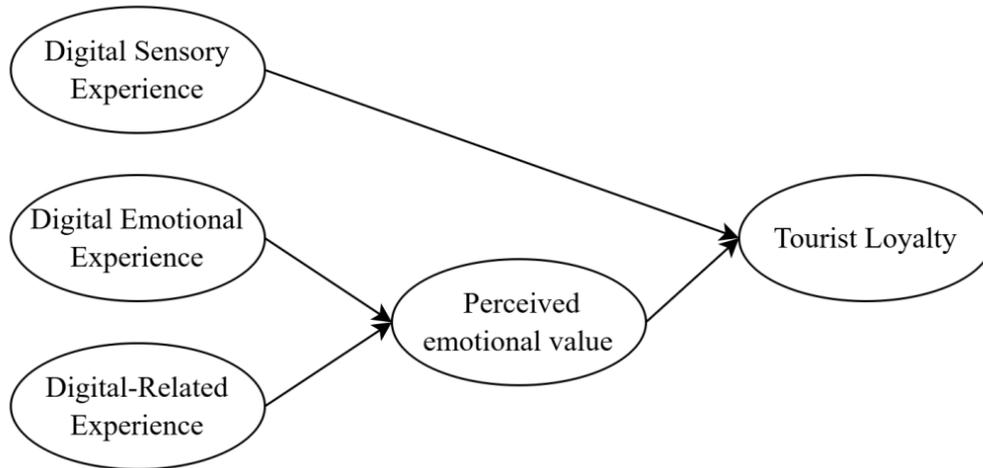


Figure 1 Research model

4. Research design and data collection

4.1. Measures

The research model has five core variables, and the three measurement question items for the dependent variable tourist loyalty were adapted from the studies of Meng & Cui (2021), and Yuksel (2010). The independent variables are digital sensory experience, digital emotional experience, and digital-related experience. The three measurement items for digital sensory experience were mainly derived from the scale developed by Wang et al. (2023); the three measurement items for digital emotional experience were adapted from the scales of Wang & Bai (2023), and Wang et al. (2023). The three measurement items for digital-related experience were adapted from Brun et al. (2020), and Wang et al. (2023). The mediating variable was perceived emotional value, which was measured in terms of mental leisure, security, and novelty, drawing on the study by Li et al. (2023).

There are two sections to the questionnaire. The first part surveys digital tourism experience and tourist loyalty, and according to the degree of agreement ranging from the lowest to the highest, each item is assigned a value of 1-7 points. The demographic characteristics of the respondents are examined in the second section, which includes questions about their age, gender, income, occupation, and level of education.

4.2. Sample and data collection

The respondents in the survey were predominantly tourists hailing from digitized rural tourism destinations, such as Meixin Red Wine Town in Chongqing, Wuyuan in Jiangxi Province, and Zhouzhuang in Jiangsu Province. Furthermore, a fill-in-the-blank item entitled “Fill in the impressive digitized rural tourism scenic spots” was incorporated into the questionnaire to ensure the precision and origin of data collection. Subsequently, via offline questionnaire surveys directed at tourists within the scenic areas, a total of 436 valid questionnaires were ultimately amassed.

In the investigation involving 436 tourist samples, it was ascertained that the proportion of male respondents was 61.5%, whereas that of female respondents was 38.5%. Concerning the age dimension, the distribution manifested particular characteristics. Notably, the respondents within the 18 - 30 age bracket accounted for a substantial 53%, thereby forming the preponderant segment. The 31 - 45 age cohort accounted for 18.4%, and the 46 - 55 age group constituted 12.8%. In contrast, the combined proportion of those below 18 years old and above 55 years old was merely 15.8%. In the realm of educational attainment, individuals with undergraduate qualifications accounted for 50% of the total sample. Those possessing junior college degrees accounted for 16.3%, and those with high school diplomas accounted for 28.7%. The percentage of tourists with postgraduate degrees or higher was relatively scant, amounting to only 5%. Concerning the monthly income circumstances, the tourist cohort with a monthly income of less than 2,000 yuan exhibited the largest proportion, attaining 42%. The tourists with a monthly income ranging from 2,000 to 5,000 yuan accounted for 31.6%, and those with a monthly income exceeding 5,000 yuan accounted for 26.4%. From the vantage point of occupational distribution, a variegated pattern emerged. Among them, students enrolled in educational institutions accounted for a conspicuously high proportion, precisely 45.4%. Freelancers accounted for 19.3%, enterprise employees accounted for 13%, and the aggregate of civil servants and other occupational classifications accounted for 22.2%.

5. Data analysis

5.1. Reliability and Validity Analysis

Table1 Results of reliability and validity analysis

Variant	Subject	Cronbach's α	Standardized Loadings	AVE	CR
Digital Sensory Experience	GG1	0.826	0.85	0.627	0.834
	GG2		0.815		
	GG3		0.703		
Digital Emotional Experience	QG1	0.892	0.844	0.744	0.897
	QG2		0.875		
	QG3		0.868		
Digital-Related Experience	SH1	0.851	0.846	0.657	0.851
	SH2		0.836		
	SH3		0.746		
Perceived Emotional Value	JZ1	0.863	0.882	0.682	0.865
	JZ2		0.785		
	JZ3		0.808		
Tourist Loyalty	ZC1	0.891	0.873	0.732	0.891
	ZC2		0.845		
	ZC3		0.847		

For the reliability test, the internal consistency reliability analysis of the questionnaire content was carried out using SPSS26.0 software. As shown in Table 1, the Cronbach's α coefficient values of digital sensory experience, digital emotional experience, digital-related experience, perceived emotional value, and tourist loyalty are all greater than 0.8, which meets the reliability requirements of the scale (Hair et al., 2010), indicating that the questionnaire reliability is good.

Validity tests were categorized into content validity and structural validity. The scales in this study were adapted from mature scales with good content validity. The KMO and Bartlett's Spherical Significance Test results showed that the scales were appropriate for factor analysis, with the KMO value being 0.954, the approximate chi-square being 4779.902, and the statistical value of the Bartlett's Spherical Test reaching the level of significance ($P < 0.001$). Therefore, validated factor analysis (CFA) utilizing Amos.26 was utilized to further confirm the scale's structural validity. Meanwhile, the values of the indicators of the validation model fit were within the acceptable range ($\chi^2/df=2.02$, $P=0.000 < 0.001$, $RMSEA=0.048$, $NFI=0.967$, $RFI=0.957$, $IFI=0.983$, $TLI=0.978$, and $CFI=0.983$), which demonstrated that the validation model possessed a satisfactory overall compatibility. By the three testing criteria of convergent validity (Hair et al., 2014), the questionnaire had good convergent validity, the Table 1 showed that the standardized factor loadings of all measurement items of the scale ranged from 0.7 to 0.89, all of which were greater than 0.7; the CR values of the variables were all greater than 0.7, and the AVE values were all greater than 0.5. Meanwhile, the discriminant validity was tested using the Heterotrait-Monotrait Ratio (HTMT) approach (Ail et al., 2018). All details are reported in Table 4. The HTMT values between the variables were less than 0.9, indicating high discriminant validity of the scale, except for the discriminant validity scores for emotional and sensory experiences (Henseler et al, 2015).

Table 2 Distinguishing validity results of the HTMT test

Constructs	1	2	3	4	5
1 Digital Sensory Experience					
2 Digital Emotional Experience	0.921				
3 Digital-Related Experience	0.753	0.818			
4 Perceived Emotional Value	0.757	0.821	0.844		
5 Tourist Loyalty	0.73	0.726	0.714	0.786	

5.2. Structural model assessment

Maximum Likelihood Estimation was used to fit the questionnaire data to the conceptual model with AMOS 26.0. The results of the validation model fitting are shown in Table 3. The fitting indexes are all acceptable. This indicates that the structural equation model and the data of the present study have a better fit and can be used to effectively test and explain the relevant hypotheses.

Table 3 Model fit test results

fitness index	CMIN	Df	χ^2/df	RMSEA	RMR	NFI	TLI	IFI	CFI
resulting value	163.46	83	1.969	0.047	0.044	0.967	0.983	0.979	0.983
standard value	--	--	<3.00	<0.08	<0.05	>0.90	>0.90	>0.90	>0.90

Table 4 Results of research hypothesis testing

Hypothetical path	Estimate	S.E.	C.R.	P	Result
Digital Sensory Experience → Tourist Loyalty	0.285	0.074	4.399	***	Supported
Digital Emotional Experience → Tourist Loyalty	0.422	0.082	4.792	***	Supported
Digital-Related Experience → Tourist Loyalty	0.371	0.114	4.097	***	Supported
Digital Emotional Experience → Perceived emotional value	0.393	0.068	5.185	***	Supported

Digital-Related Experience	→ Perceived emotional value	0.514	0.095	6.414	***	Supported
Perceived emotional value	→ Tourist Loyalty	0.584	0.073	8.484	***	Supported

Without including the mediator variable of perceived emotional value, digital emotional experience significantly and positively influences tourist loyalty in rural tourism destinations, and hypothesis H1b is supported. Digital-related experience positively affects tourist loyalty in rural tourism destinations, and as a result, hypothesis H1c is supported.

After including the mediating variable of perceived emotional value, digital sensory experience has a significant positive effect on tourist loyalty in rural tourism destinations, hypothesis H1a is valid. Therefore, the digital tourism experience from the perspective of rural tourism destinations has a positive effect on tourist loyalty, and hypothesis H1 passes the test. Since both digital emotional experience and digital-related experience have a significant positive effect on perceived emotional value, hypotheses H2 and H3 are supported. Perceived emotional value significantly and positively affects tourist loyalty in rural tourism destinations and hypothesis H4 is supported.

5.3. Tests for mediating effects

To further validate the mediating role played by perceived emotional value in digital tourism experience influencing tourist loyalty. Based on the Bootstrap mediation effect test program of Amos26.0 software, the bias-corrected nonparametric percentage method was adopted to set up 95% confidence intervals to test the two mediating paths of the digital emotional experience and the digital-related experience to tourist loyalty.

Table 5 Results of Bootstrap analysis of mediating effects

Hypothetical path	Effect	Estimate	95%CI		Result
			Lower	Upper	
Digital emotional experience	total effect	0.467	0.208	0.772	Supported
→ Perceived emotional value	direct effect	0.139	-0.138	0.471	
→ Tourist loyalty	indirect effect	0.328	0.164	0.547	
Digital-related experiences	total effect	0.4	0.197	0.591	Supported
→ Perceived emotional value	direct effect	0.19	-0.008	0.397	
→ Tourist loyalty	indirect effect	0.21	0.099	0.379	

The total effect and indirect effect of digital emotional experience on tourist loyalty are 0.467 and 0.328 respectively, with 95% confidence intervals of (0.208, 0.772) and (0.164, 0.547), neither of which has gone through 0. The value of the direct effect is 0.139, and the confidence interval (-0.138, 0.471) contains 0, which suggests that the direct effect is not significant. The total effect and indirect effect of digital-related experience on tourist loyalty were 0.4, 0.21, with confidence intervals of (0.197, 0.591), (0.099, 0.379), and none of the 95% confidence intervals contained 0. The value of the direct effect of digital-related experience on tourist loyalty was 0.19, with a 95% confidence interval (-0.008, 0.397) on which 0 was included. Therefore, perceived emotional value mediates the relationship between digital emotional experience and tourist loyalty, and digital-related experience and tourist loyalty, and hypotheses H5a and H5b are valid.

6. Discussion and conclusions

6.1. Conclusion

Based on the experience economy perspective, this study used the questionnaire survey method to explore the impact of the digital tourism experience on tourist loyalty. According to the study results, digital tourism significantly increased tourist loyalty in rural areas. In particular, tourist loyalty was positively impacted by the digital sensory experience. Perceived emotional value was also positively impacted by digital emotional and digital-related experiences. Additionally, perceived emotional value positively impacted tourist loyalty. The impact of digital emotional experience and digital-related experience on tourist loyalty was mediated by perceived emotional value. Within the context of tourist collectives in rural tourism destinations, wherein the preponderant motivational factor is leisure, they manifest a more pronounced proclivity to espouse the amalgamation of digital technology and offline tangible tourism spaces. Concurrently, travelers are enabled to disseminate their travel-related content via diverse technological channels, thereby constructing a related experience with the external environment. The deployment of digital technology is efficacious in conferring upon tourists a congenial and expedient tourism experience, amplifying their spiritual edification, sense of assurance, and perception of novelty, which in turn bolsters tourist loyalty. These discoveries supply an empirical substratum for decoding the interrelationship among digital tourism experience, perceived emotional value, and tourist loyalty, and additionally tender guidelines for the marketing and management initiatives in rural tourism. Based on this, this paper has certain theoretical and practical significance.

6.2. Theoretical Contributions

The following theoretical contributions are made in this study in response to the growing interest in the digital transformation of rural tourism. (1) In contrast to earlier research that concentrated on the diverse uses of digital technology, including virtual reality (Huang, 2017) and smartphones (Tan, 2017), this study explores the digital tourism experience at its core. The paper investigates the impact of the three facets of the digital tourism experience on tourist loyalty. This research not only broadens the scope of inquiry into digital tourism experiences but also offers fresh perspectives and avenues for future studies. (2) This study verifies the mechanism of tourism experience's influence on tourist loyalty to rural tourism destinations in the context of the digital economy. This study presents a novel approach by treating perceived emotional value as a unidimensional construct. This differs from previous studies such as Mohammad (2020), which explored multidimensional constructs. The selection of unidimensional perceived emotional value is more reasonable in this paper. Meanwhile, it provides a certain theoretical basis for future research on the psychology of consumers in rural tourism destinations. (3) The utilization of digital technology is essential for the high-quality advancement of rural tourism, and prior studies have established a research framework for digital marketing, focusing on the behavior of tourists and the image of rural tourism destinations (Rodriguesa, 2021). However, there is a lack of empirical research on the impact of digital technology on tourist loyalty to rural tourism destinations. Consequently, this research aims to explore the impact of digital tourism experiences on tourist loyalty.

6.3. Practice Management Implications

The study's conclusions have important real-world applications. (1) The study confirms that digital sensory experience positively affects tourist loyalty, therefore, tourism operators should introduce diversified digital experiences to enhance the direct sensory experience of tourists, such as the use of VR technology to enhance the visual experience, and the AR e-map, live-view guide and other functions to enable tourists to realize the interaction between virtual and real, and to enhance the dual experience of visual and tactile senses. (2) The perceived emotional value plays a

pivotal role in fostering tourist loyalty within rural tourism destinations. The introduction of digital technology will enhance tourists' spiritual enjoyment, sense of security, and novelty. Consequently, tourism operators can bolster tourists' feelings of security and novelty by implementing intelligent map navigation, sophisticated customer service, engaging online mini-programs, and interactive online community platforms. These tools can heighten the perceived emotional value, thereby enhancing tourist loyalty. (3) Digital emotional experience and digital-related experience can positively affect tourist loyalty through perceived emotional value. Consequently, service providers could introduce an array of digital amenities that allow visitors to personally experience the convenience and efficiency that digital advancements bring to the travel industry. This not only elevates the comfort and relaxation of tourists but also enriches their emotional journey. Concurrently, the establishment of a tourism community sharing platform encourages interaction and exchange among travelers, thereby enhancing their collective experiences. (4) The study underscores the significant role of perceived emotional value in fostering loyalty. However, it is crucial for rural tourism operators to not only invest in digital tools but also develop strategies that enhance tourists' emotional experiences through personalized interactions, gamification, or interactive storytelling. These strategies can further enhance the perceived emotional value, leading to stronger tourist loyalty.

6.4. Shortcomings and Prospects

This study has three main limitations: (1) In this paper, we have chosen to focus on perceived emotional value as the mediating variable specifically for rural tourism destinations. Future research might consider incorporating additional mediating variables, such as place attachment (Meng & Cui, 2021). Although the present study has not explored the effects of moderating variables, it is acknowledged that various moderators can exert different impacts. Consequently, subsequent investigations could assess the influence of factors like the level of knowledge and experience (Wen & Leung, 2021), tourism motivation (Tan, 2017) and other potential moderators. (2) While previous researchers have conducted studies that specifically targeted the historical and cultural heritage category (Król, 2021) or the natural scenery category of rural tourism destinations (Tan, 2017), the research outcomes have varied, suggesting that different types of destinations experience distinct impacts from the introduction of digital technology. Moving forward, we can employ comparative experimental methods to explore these differential impacts. This paper primarily concentrates on the research and analysis of rural tourism destinations in general. (3) This paper empirically examines the questionnaire survey method. Looking ahead, we can delve deeper into the psychological shifts of tourists by employing experimental methods and secondary data analysis.

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References

Ali, F., Rasoolimanesh, S. M., Sarstedt, M., Ringle, C. M., & Ryu, K. (2018). An assessment of the use of partial least squares structural equation modeling (PLS-SEM) in hospitality research.

- International Journal of Contemporary Hospitality Management, 30(1), 514-538. <https://doi.org/10.1108/ijchm-10-2016-0568>
- Bec, A., Moyle, B., Timms, K., Schaffer, V., Skavronskaya, L., & Little, C. (2019). Management of immersive heritage tourism experiences: A conceptual model. *Tourism Management*, 72(JUN.), 117-120. <https://doi.org/10.1016/j.tourman.2018.10.033>
- Benyon, D., Quigley, A., O'Keefe, B., & Riva, G. (2014). Presence and digital tourism. *Ai & Society*, 29(4), 521-529. <https://doi.org/10.1007/s00146-013-0493-8>
- Brun, I., Rajaobelina, L., Ricard, L., & Amiot, T. (2020). Examining the influence of the social dimension of customer experience on trust towards travel agencies: The role of experiential predisposition in a multichannel context. *Tourism Management Perspectives*, 34, 100668. <https://doi.org/10.1016/j.tmp.2020.100668>
- Chen Hsieh, J. (2021). Digital storytelling outcomes and emotional experience among middle school EFL learners: Robot-assisted versus PowerPoint-assisted mode. *TESOL Quarterly*, 55(3), 994-1010. <https://doi.org/10.1002/tesq.3043>
- Chen, C. F., & Chen, F. S. (2010). Experience quality, perceived value, satisfaction and behavioral intentions for heritage tourists. *Tourism Management*, 31(1), 29-35. <https://doi.org/10.1016/j.tourman.2009.02.008>
- Chiu, H. C., Hsieh, Y. C., & Kao, C. Y. (2005). Website quality and customer's behavioural intention: An exploratory study of the role of information asymmetry. *Total Quality Management & Business Excellence*, 16(2), 185-197. <https://doi.org/10.1080/14783360500054277>
- Dickinson, J. E., Ghali, K., Cherrett, T., Speed, C., Davies, N., & Norgate, S. (2014). Tourism and the smartphone app: Capabilities, emerging practice and scope in the travel domain. *Current Issues in Tourism*, 17(1), 84-101. <https://doi.org/10.1080/13683500.2012.718323>
- Gallarza, M. G., & Saura, I. G. (2006). Value dimensions, perceived value, satisfaction and loyalty: An investigation of university students' travel behaviour. *Tourism Management*, 27(3), 437-452. <https://doi.org/10.1016/j.tourman.2004.12.002>
- Gao, X., & Liu, Y. (2024). Research on the relationship between museum smart tourism technology and visitor satisfaction and loyalty. *Contemporary Communication*, 02, 101-106.
- Genc, V., & Gulertekin Genc, S. (2023). The effect of perceived authenticity in cultural heritage sites on tourist satisfaction: The moderating role of aesthetic experience. *Journal of Hospitality and Tourism Insights*, 6(2), 530-548. <https://doi.org/10.1108/jhti-08-2021-0218>
- Ghorbanzadeh, D., Shabbir, M. S., Mahmood, A., & Kazemi, E. (2021). Investigating the role of experience quality in predicting destination image, perceived value, satisfaction, and behavioural intentions: A case of war tourism. *Current Issues in Tourism*, 24(21), 3090-3106. <https://doi.org/10.1080/13683500.2020.1863924>
- Hair Joseph, F., Black William, C., Babin Barry, J., & Anderson Rolph, E. (2010). *Multivariate data analysis: A global perspective*.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43, 115-135. <https://doi.org/10.1007/s11747-014-0403-8>
- Huang, C. D., Goo, J., Nam, K., & Yoo, C. W. (2017). Smart tourism technologies in travel planning: The role of exploration and exploitation. *Information & Management*, 54(6), 757-770. <https://doi.org/10.1016/j.im.2016.11.010>
- Huang, W., Meng, F., Bai, X., & Yi, X. (2017). Study on rural tourism satisfaction influence mechanism of concentrated destitute areas of empirical—taking fenghuang and zhangjiajie in wuling mountain area as an example. *Resource Development & Market*, (01), 110-115. <https://doi.org/10.3969/j.issn.1005-8141.2017.01.021>

- Jiang, Y., & Kim, Y. (2015). Developing multi-dimensional green value: Extending social exchange theory to explore customers' purchase intention in green hotels—evidence from Korea. *International Journal of Contemporary Hospitality Management*, 27(2), 308-334. <https://doi.org/10.1108/ijchm-08-2013-0383>
- Kato, T. (2021). Functional value vs emotional value: A comparative study of the values that contribute to a preference for a corporate brand. *International Journal of Information Management Data Insights*, 1(2), 100024. <https://doi.org/10.1016/j.jjime.2021.100024>
- Kim, J. H. (2014). The antecedents of memorable tourism experiences: The development of a scale to measure the destination attributes associated with memorable experiences. *Tourism Management*, 44(oct.), 34-45. <https://doi.org/10.1016/j.tourman.2014.02.007>
- Król, K. (2021). Digital cultural heritage of rural tourism facilities in Poland. *Journal of Cultural Heritage Management and Sustainable Development*, 11(4), 488-498. <https://doi.org/10.1108/jchmsd-10-2019-0130>
- Lamberton, C., & Stephen, A. T. (2016). A thematic exploration of digital, social media, and mobile marketing: Research evolution from 2000 to 2015 and an agenda for future inquiry. *Journal of Marketing*, 80(6), 146-172. <https://doi.org/10.1509/jm.15.0415>
- Lapuz, M. C. M. (2023). The role of local community empowerment in the digital transformation of rural tourism development in the Philippines. *Technology in Society*, 74, 102308. <https://doi.org/10.1016/j.techsoc.2023.102308>
- Lee, K., Kladou, S., Usakli, A., & Shi, Y. (2022). Inspiring winery experiences to benefit destination branding? Insights from wine tourists at Yantai, China. *Journal of Hospitality and Tourism Insights*, 5(1), 116-137. <https://doi.org/10.1108/jhti-06-2020-0109>
- Li, L., Sui, H., & Huang, P. (2023). Research on the impact of digital tourism experience value to tourist citizenship behavior—An empirical analysis based on the theory of co-creation. *Resource Development & Market*, (09), 1239-1248. <https://doi.org/10.3969/j.issn.1005-8141.2023.09.018>
- Lin, C. H., & Kuo, B. Z. L. (2016). The behavioral consequences of tourist experience. *Tourism Management Perspectives*, 18, 84-91. <https://doi.org/10.1016/j.tmp.2015.12.017>
- Lin, M. (2024). Understanding the influencing factors of tourists' revisit intention in traditional villages. *Heliyon*, 10(15). <https://doi.org/10.1016/j.heliyon.2024.e35029>
- Liu, K., & Xian, H. (2023). The high quality development path of rural tourism in heilongjiang province under the background of digital economy. *Academic Exchange*, (07), 121-133.
- Loureiro, S. M. C., Stylos, N., & Miranda, F. J. (2020). Exploring how mindfulness may enhance perceived value of travel experience. *The Service Industries Journal*, 40(11-12), 800-824. <https://doi.org/10.1080/02642069.2019.1600672>
- Melo, M., Coelho, H., Gonçalves, G., Losada, N., Jorge, F., Teixeira, M. S., & Bessa, M. (2022). Immersive multisensory virtual reality technologies for virtual tourism: A study of the user's sense of presence, satisfaction, emotions, and attitudes. *Multimedia Systems*, 28(3), 1027-1037. <https://doi.org/10.1007/s00530-022-00898-7>
- Meng, M., & Cui, G. (2021). Sustainable development of rural tourism in the perspective of rural revitalization—an empirical study based on the cultivation path of tourist loyalty. *Guizhou Social Sciences*, (05), 161-168. <https://doi.org/10.13713/j.cnki.cssci.2021.05.022>
- Mohammad, J., Quoquab, F., Thurasamy, R., & Alolayyan, M. N. (2020). The effect of user-generated content quality on brand engagement: The mediating role of functional and emotional values. *Journal of Electronic Commerce Research*, 21(1), 39-55.
- Munar, A. M., & Jacobsen, J. K. S. (2014). Motivations for sharing tourism experiences through social media. *Tourism Management*, 43(aug.), 46-54. <https://doi.org/10.1016/j.tourman.2014.01.012>

- Nguyen, N. X., Nguyen, D. T., Suseno, Y., & Quang, T. B. (2020). The flipped side of customer perceived value and digital technology in b2b professional service context. *Journal of Strategic Marketing*(6), 1-21. <https://doi.org/10.1080/0965254X.2020.1755350>
- Ning, W. (2017). Rethinking authenticity in tourism experience. In *The political nature of cultural heritage and tourism* (pp. 469-490). Routledge.
- Pine, B. J., & Gilmore, J. H. (2011). *The experience economy*. Harvard Business Press.
- Rasoolimanesh, S. M., Iranmanesh, M., Amin, M., Hussain, K., & Shad, H. A. (2020). Are functional, emotional, and social values interrelated? A study of traditional guesthouses in Iran. *International Journal of Contemporary Hospitality Management*. <https://doi.org/10.1108/ijchm-03-2020-0193>
- Rasoolimanesh, S. M., Iranmanesh, M., Seyfi, S., Ari Ragavan, N., & Jaafar, M. (2023). Effects of perceived value on satisfaction and revisit intention: Domestic vs. international tourists. *Journal of Vacation Marketing*, 29(2), 222-241. <https://doi.org/10.1177/13567667221086326>
- Robert, J., Kwortnik, Jr., and, & William, et al. (2007). The role of positive emotions in experiential decisions. *International Journal of Research in Marketing*. <https://doi.org/10.1016/j.ijresmar.2007.09.002>
- Rodrigues, S., Correia, R. F., & Martins, J. (2021). Digital marketing impact on rural destinations promotion: A conceptual model proposal. In *2021 16th Iberian Conference on Information Systems and Technologies (CISTI)* (pp. 1-8). IEEE. <https://doi.org/10.23919/cisti52073.2021.9476533>
- Sánchez, J., Callarisa, L., Rodriguez, R. M., & Moliner, M. A. (2006). Perceived value of the purchase of a tourism product. *Tourism Management*, 27(3), 394-409. <https://doi.org/10.1016/j.tourman.2004.11.007>
- Schmitt, B. (1999). Experiential marketing. *Journal of Marketing Management*, 15(1-3), 53-67. <https://doi.org/10.1362/026725799784870496>
- Sheth, J. N., Newman, B. I., & Gross, B. L. (1991). Why we buy what we buy: A theory of consumption values. *Journal of Business Research*, 22(2), 159-170. [https://doi.org/10.1016/0148-2963\(91\)90050-8](https://doi.org/10.1016/0148-2963(91)90050-8)
- Small, J., Darcy, S., & Packer, T. (2012). The embodied tourist experiences of people with vision impairment: Management implications beyond the visual gaze. *Tourism Management*, 33(4), 941-950. <https://doi.org/10.1016/j.tourman.2011.09.015>
- Song, H. J., Lee, C. K., Park, J. A., Hwang, Y. H., & Reisinger, Y. (2015). The influence of tourist experience on perceived value and satisfaction with temple stays: The experience economy theory. *Journal of Travel & Tourism Marketing*, 32(4), 401-415. <https://doi.org/10.1080/10548408.2014.898606>
- Sustacha, I., Banos-Pino, J. F., & Del Valle, E. (2023). The role of technology in enhancing the tourism experience in smart destinations: A meta-analysis. *Journal of Destination Marketing & Management*, 30, 100817. <https://doi.org/10.1016/j.jdmm.2023.100817>
- Sweeney, J. C., & Soutar, G. N. (2001). Consumer perceived value: The development of a multiple item scale. *Journal of Retailing*, 77(2), 203-220. [https://doi.org/10.1016/S0022-4359\(01\)00041-0](https://doi.org/10.1016/S0022-4359(01)00041-0)
- Tan, W. K. (2017). The relationship between smartphone usage, tourist experience and trip satisfaction in the context of a nature-based destination. *Telematics & Informatics*, 34(2), 614-627. <https://doi.org/10.1016/j.tele.2016.10.004>
- Tussyadiah, I. P., & Fesenmaier, D. R. (2009). Mediating tourist experiences. Access to places via shared videos. *Annals of Tourism Research*, 36(1), 24-40. <https://doi.org/10.1016/j.annals.2008.10.001>
- Urry, J. (1992). The tourist gaze “revisited”. *American Behavioral Scientist*, 36(2), 172-186. <https://doi.org/10.1177/000276429203600204>

- Walters, G., Gill, C., Pham, L. D. Q., & Filep, S. (2024). Virtual tourism experiences and mental restoration. *Journal of Hospitality & Tourism Research*, 48(3), 564-569. <https://doi.org/10.1177/10963480221116047>
- Wang, J., Li, H., & Peng, H. (2024). The Logic and Path of Digital Technology Empowering the Integration of Culture and Tourism from the Perspective of Rural Revitalization. *Tourism Tribune*, (11), 11-13. <https://doi.org/10.19765/j.cnki.1002-5006.2024.11.005>.
- Wang, Q., Hong, Q., Liu, C., & Zhu, H. (2023). The Impact of Tourism Experience on the Well-being of Chinese Elderly People: The Mediating Role of Intergenerational Interaction. *Social Scientist*, (04), 46-54 + 81.
- Wang, W., Chen, J. S., Fan, L., & Lu, J. (2012). Tourist experience and wetland parks: A case of Zhejiang, China. *Annals of Tourism Research*, 39(4), 1763-1778. <https://doi.org/10.1016/j.annals.2012.05.029>
- Wang, X., & Bai, K. (2023). The effect of presence to emotional experience of virtual tourism participants: Based on the mediating role of time distortion and the moderating effect of visual perception. *Tourism Science*, (02), 155-174. <https://doi.org/10.16323/j.cnki.lykx.2023.02.007>.
- Wen, H., & Leung, X. Y. (2021). Virtual wine tours and wine tasting: The influence of offline and online embodiment integration on wine purchase decisions. *Tourism Management*, 83, 104250. <https://doi.org/10.1016/j.tourman.2020.104250>
- Windasari, N. A., Santoso, H. B., & Wang, J.-C. (2022). Memorable Digital Tourism Experience: Utilization of Emotions and Sensory Stimuli With Service-Dominant Logic. In Jaziri, D., & Rather, R. A. (Eds.), *Contemporary Approaches Studying Customer Experience in Tourism Research* (pp. 147-172). Emerald Publishing Limited.
- Yin, Y. (2023). Rural tourism digital development: Dynamic mechanism, logical dimension and contradiction relief. *Journal of Xi'an University of Finance and Economics*, (01), 29-40. <https://doi.org/10.19331/j.cnki.jxufe.2023.01.001>.
- Yuksel, A., Yuksel, F., & Bilim, Y. (2010). Destination attachment: Effects on customer satisfaction and cognitive, affective and conative loyalty. *Tourism Management*, 31(2), 274-284. <https://doi.org/10.1016/j.tourman.2009.03.007>
- Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: A means-end model and synthesis of evidence. *Journal of Marketing*, 52(3), 2-22. <https://doi.org/10.1177/002224298805200302>